

REMARKS

Applicants, their principal representatives in Germany, and the undersigned have carefully reviewed the first Office Action on the merits of May 21, 2009 in the subject U.S. patent application, together with the prior art cited and relied on in the rejections of the claims. In response, the substitute specification and claims of the subject application have been amended. It is believed that the claims which are now pending in the subject US patent application are patentable over the prior art cited and relied on, taken either singly or in combination. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

As set forth in the substitute specification, as depicted in the drawings and as recited in the claims now pending in the subject application, the present invention is directed to a rotatable body which is usable primarily in a printing press. In particular, the present invention is directed to a rotatable body that is configured either as a forme cylinder or as a blanket or transfer cylinder. In both such configurations, the rotatable body is covered with a removable dressing or blanket. This dressing or blanket may be one or more printing formes or plates, when the rotating body is a forme cylinder, or may be one or more resilient blankets when the rotating body is a blanket cylinder or a transfer cylinder.

In all of these uses, the cover that is periodically placed on the barrel of the rotating body must be removed from that body. When the rotating body is a forme cylinder, the printing formes have to be removed and replaced every time that the

printing press is used to print a different product. Typically, this occurs every day since the printing press is usually used to print a daily newspaper. If the rotating body is a transfer or blanket cylinder, the blankets must periodically be removed and replaced.

In use of the rotating body as a component of a printing press, the rotating body is exposed to various materials such as inks, dampening fluids, plate and blanket cleaning compositions and the like. These materials may be corrosive in nature and may react with the base body of the rotating body to cause corrosion thereof. In most instances, the ends of the printing formes, blankets and dressings are held in suitable cylinder grooves by clamping mechanisms. If these cylinder grooves and/or clamping mechanisms are subject to corrosion, they may become inoperable. The result is that it becomes difficult to install and to remove the printing formes, dressings and blankets that need to be removably positioned on the rotating body.

In accordance with one aspect of the subject invention, the barrel of the rotating body may be made of a material which is not particularly corrosion-resistant. This body barrel may be easily machined to include the typical groove or channel into which plate end or blanket end securement assemblies are inserted. The body barrel can also be milled or otherwise machined to provide suitable flow channels that are usable to facilitate the flow of temperature control fluids through the barrel of the rotating body.

Once the barrel of the rotating body has been so machined, various profiled bodies can be fastened in place in the milled or machined channels. These profiled bodies can either completely cover the grooves or channels and can thus define flow

channels or passages, or they can be provided as cooperating profiled bodies that provide dressing end holding means receiving securement channels. The profiled bodies, in accordance with one aspect of the present invention, may be made of a corrosion-resistant material. In this embodiment, the use of such corrosion-resistant materials, which are typically more costly than less corrosion-resistant materials, is limited only to the areas of the rotating body where they are needed. The rotating body barrel can also be enclosed in a thin sleeve of corrosion-resistant material that is then welded in place. Again, the result is the ability to use a less expensive, base metal for the rotating body barrel and to provide profiled bodies at the surface of the rotating barrel. Since only the profiled bodies, and the sleeve with which they may be used, are made of a corrosion-resistant material, the resultant rotating body exhibits the benefits of increased resistance to corrosion without the cost that would be associated with the production of a similar rotating body whose entire barrel were to be made of the corrosion-resistant material.

The profiled body or bodies are welded into the grooves that are formed in the outer portion of the rotating body barrel. This method of securement is superior to the prior usage of screws, bolts and other similar fasteners. If the profiled bodies are made of a corrosion-resistant material, and are properly welded into the rotating body barrel, they will provide superior functionality and durability. Once the profiled body or bodies are in place, the sleeve or covering of the corrosion-resistant material can be put in place. Again, the result is a rotating body where outer surface and functional elements are corrosion-resistant without requiring that the entire rotating body be made of a

corrosion-resistant material.

In accordance with the present invention, the profiled body or bodies, either in the form of groove covers or in the form of plate end holding means, are preferably secured in the previously milled groove by electron beam welding or by laser welding. The result is a very secure connection of the profiled bodies to the barrel of the rotating body. The use of electron beam welding or of laser welding permits heating of the barrel of the rotating body in only a locally very narrow welding zone. The barrel of the base body thus remains free of tension and free of warpage because the heat generated by the welding is confined to this locally very narrow welding zone.

In the first Office Action on the merits, of May 21, 2009, the Examiner objected to the drawings as failing to comply with 37 CFR 1.84 (p)(5). The reference symbol "U", which was set forth in the substitute specification as referring to the circumference of the rotating body, is not shown in the drawings. It is believed that the easiest way to resolve this issue is to cancel the reference symbol "U" from the substitute specification. Its use to identify the circumference of the rotating body is believed to be unnecessary. The circumference of the rotating body is clearly seen in essentially all of the drawings. It does not have to be identified by a separate reference character in the specification.

Examiner Omgba has noted several typographical errors in the substitute specification. His time in reviewing the substitute specification and in noting these minor errors, as set forth at pages 2 and 3 of the Detailed Action, is appreciated. The undersigned has made the changes suggested by the Examiner. Various other minor

errors have also been noted in the substitute specification. These have also been corrected. None of these minor changes and corrections adds any new matter.

Claim 50, and the claims that depend from it, were objected to because of a typographical error in line 6 thereof. That error has been corrected in the manner suggested by the Examiner.

Claim 60 was rejected under 35 USC 112, second paragraph as being indefinite. It was asserted that the phrase "said profiled body" in line 2 lacked sufficient antecedent basis. In response, claim 60 has been amended to recite "...each of said first and second profiled bodies...", which term does have proper antecedent basis. The same problem was noted in claims 62, 64, 66 and 74. Each has been amended in the same fashion.

Claims 36-46 were withdrawn from consideration in accordance with the Response to Restriction Requirement which was filed on February 2, 2009. Those claims have now been cancelled. Applicants again expressly reserve the right to file one or more divisional patent applications directed to those inventions.

Claims 83-86 were rejected under 35 USC 102(b) as being anticipated by US Patent No 5,329,853 to Stegmeir. Claims 47-49, 51-53, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79 and 81 were rejected under 35 USC 103(a) as being unpatentable over DE 196 11 642 to Heller in view of US Patent No 6,543,358 to Schneider. Claims 50, 54, 56, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78 and 80 were rejected under 35 USC 103(a) as being unpatentable over Heller in view of US Patent No 5,003,878 to Dorow. Claims 55

and 56 were objected to as being dependent on a rejected base claim but were included as being allowable if rewritten in independent form.

The indication of the allowability of claims 55 and 56 is noted with appreciation. In response, new independent claims 87 and 88 are being submitted. These are indicated allowable claims 55 and 56 presented in independent form and including all of the limitations of any intervening claims. It is believed that claims 87 and 88 are allowable. It is believed that no additional filing fee is required in connection with the submission of these claims. The cancellation of independent claims 36 and 38 makes any additional filing fee for the submission of new independent claims 87 and 88 unnecessary.

Turning now initially to the rejection of claims 83-86 as being anticipated by US Patent No 5,329,853 to Stegmeir, the following discussion is believed to be appropriate. Independent claim 83 has been amended to recite a rotating barrel with an integral outer shell face on the barrel. An opening is provided in that integral outer shell face. At least one edge is formed on that opening which is provided in the integral shell face. That one edge, which forms the opening in the integral outer shell face of the rotating body barrel is made of a corrosion-resistant metal material.

The prior art patent to Stegmeir is directed to a blanket dampening device. There is provided a transfer cylinder 1 on whose outer surface there is removably positionable a rubber blanket 5. A clamping duct 2 is formed in the transfer cylinder and is provided with several embodiments of blanket end clamping devices. These

blanket end clamping devices are usable to clamp the ends of the removable rubber blanket 5.

In the Office Action, it was asserted that the rotating body has an outer shell face that is covered by blanket 5. An opening 2 is provided in the shell face. It was stated that first and second edges which were noted as being the angled ends of the blanket 5 were "...on the opening adjacent the shell face..." It was further asserted that the edges were made of a corrosion-resistant material.

In the discussion of the Stegmeir reference in the Office Action, it was admitted that the edges were formed by the removable rubber blanket 5 and that these edges were adjacent the shell face. Claim 83, as amended, clearly recites that the shell face of the rotating body is an outer integral portion of the body. It is not a removable dressing or blanket. Claim 83 further recites that the opening is provided in the shell face, not "...adjacent the shell face", as recited in the Office Action. It is further recited in claim 83 that at least one edge that is forming the opening provided in the integral shell face, is made of a corrosion-resistant metal material.

The Stegmeir reference neither anticipates, nor renders obvious the rotating body which is recited in currently amended claim 83. The rubber blanket 5 of Stegmeir is not integral with the rotating body barrel. It does not form an integral outer shell face. It does not have edges forming an opening. The edges of the opening that are found in the Stegmeir device are overlaid by the flexible, removable rubber blanket. It is thus quite clear that claim 83, as filed, and even more clearly as amended, is not anticipated

by, nor rendered obvious over the Stegmeir patent.

Dependent claims 84-86 depend from believed allowable independent claim 83. They are thus also believed to be allowable.

Turning now to the rejection of independent claim 47 and its associated dependent claims as being unpatentable over Heller, DE 196 11 642 in view of Schneider, the following discussion is believed to be appropriate. The Heller document, which does not appear to have an English language equivalent, but which does have an English language abstract, is directed to a device for attaching a pliable support plate 4 to the surface of a cylinder 1. A bar 14 is placed into a channel formed in the cylinder. The bar 14 is configured, as depicted in Fig. 1 of the Heller reference, to fill the groove which is formed on the cylinder barrel. The bar 14 is welded into the outer casing of the cylinder body.

In the discussion of the Heller reference, the Examiner has again confused the removable pliable support plate 4 with the outer shell surface of the cylinder itself. The removable pliable support plate 4 is supported on the outer casing 7 of the cylinder. It is secured to the outer casing 7 of cylinder 1 by the structure of the bar 14. That structure includes one front duct edge 5 and a plurality of holes 12 which are connected to a suitable source of vacuum.

It is admitted, in the discussion of the Heller reference, that Heller does not show a profiled body structural depth less than the groove depth. It is asserted that the secondary reference to Schneider shows such a structure. The undersigned

respectfully disagrees.

In the Schneider reference, there is depicted a plate end clamping device. The asserted profiled body 24 of Schneider is, in fact, a support strip that is located entirely in the cylinder groove 03. It is not the same as, or equivalent to the bar 14 of the Heller reference. There is no way that the Heller reference and the Schneider reference could be combined. In Heller, the bar 14 is inserted radially into the cylinder groove, fills the groove, and is welded in place. In Schneider, the support strip must be inserted axially into the cylinder groove 03 and is clearly not welded in place. It does not directly engage either end of the flexible plate 02 that is to be secured on the cylinder 01. The argument presented by the Examiner, as to the asserted combination of Heller and Schneider, overlooks the clear teachings and the substantial structural differences exhibited by the two documents.

Claim 47, as filed, and even more clearly as amended, is believed to be patentable over the combination of Heller and Schneider. In claim 47, the profiled body has a structural depth which is substantially less than a groove depth. This is seen quite clearly in Fig. 6 of the subject application. The structure recited in claim 47 is not limited to the use of the profiled body as forming a printing forme or a blanket end clamping device. The profiled body recited in claim 47, as filed, and as amended, is secured in the associated groove by welding to the outer shell surface and at least partially bridges the groove at the outer shell surface. The recitation in currently amended claim 47 that the structural depth of the profiled body is less than the groove depth of the groove, defines a channel which can receive a heat carrying flowable

material, as recited in dependent claim 48. It could also include a slit-shaped opening as recited in claim 49. In either instance, the structure of the rotating body, as recited in currently amended claim 47, is not rendered obvious by the combination of Heller and Schneider.

All of the claims that depend from believed allowable, currently amended independent claim 47, are also believed to now be allowable. Various ones of these have been amended to provide uniformity of claim terminology.

Independent claim 50, and the claims that depend from it, were rejected under 35 USC 103(a) as being unpatentable over the German reference to Heller in view of US Patent No 5,003,828 to Dorow. It is believed that claim 50, as filed, and even more clearly as amended, is patentable over this relied on combination of references.

Claim 50 is directed primarily to the embodiment of the subject invention which is depicted in Fig. 1 of the subject application. As may be seen in Fig. 1, and as recited in claim 50, a rotating body barrel 02 has an outer shell face 07. An axially extending groove is formed in the shell face and includes a joining surface. First and second profiled bodies 04 are welded into the barrel 02 and are spaced apart from each other in a circumferential direction of the barrel, as may be seen quite clearly in Fig. 1. A slit-shaped opening 11 is defined by a first edge 18 of the first profiled body 04 and by a second edge 19 of the second profiled body 04. A securement channel, generally at 06, is formed in the groove by the spaced apart first and second profiled bodies 08. A dressing end holding means, generally at 24, is pivotably positioned in the securement

channel 06 by having its radial inner end 24 supported in a groove 21. The dressing end holding means 22 has a dressing end holding portion 23. The dressing has a first dressing end 08 in engagement with the first edge 18 of the first profiled body. It also has a second dressing end 09 in engagement with the second edge 19 of the second profiled body. The dressing end holding portion 23 of the dressing end holding means 22 is in direct engagement with one of the dressing ends. In the arrangement depicted in Fig. 1, it is in direct engagement with the dressing end 09.

Neither the Heller reference nor the Dorow reference, taken either singly or in combination, show the structure of the rotating body as is set forth in currently amended independent claim 50. It is initially to be noted that the Heller reference uses a single bar 14, not a pair of spaced apart profiled bodies, as recited in claim 50. There is a slit shaped cavity 2 defined in the single bar 14 of Heller. The Heller reference does not disclose or suggest a securement channel formed by spaced apart first and second profiled bodies. Heller also does not show, or suggest at least one dressing end holding means that has a dressing end holding portion which is engageable with one of the dressing ends. Instead, in the Heller reference, there are provided a plurality of holes, such as the one depicted at 12. These holes are in contact with a source of vacuum and thus are used to hold the plate ends in place by suction.

The secondary reference to Dorow, US Patent No 5,003,828, does not provide the teachings of the subject invention, as recited in currently amended claim 50, that are missing from the Heller reference. In the Dorow device, a pair of inserts 5 are placed in a cylinder groove. Each of these inserts 5 in turn carries a clamping strip 2.

The two clamping strips are used to form a clamping channel 4. Each one of these clamping strips 2 has its own clamping surface 3. In use, the angled ends 10 of a plate 9 are each hooked on one of the clamping surfaces 3 of a separate one of the two clamping strips 2. The clamping strips 2 are initially held apart by leaf springs 6 which are spaced apart by a cam 8. When cam 8 is rotated through 90° from its position shown in Fig. 1 the two clamping strips 2 can be moved toward each other in response to forces created by the rotation of separate cams 11 that are carried in the respective inserts 5.

It was asserted in the rejection of claim 50 that the Dorow reference shows a “dressing holding means 7 in the second channel and adapted to hold a dressing 9 arranged on the shell face.” That assertion is incorrect. The element 7 of the Dorow device is a resilient hose which is provided with a plurality of radially outwardly directed openings. A gap-closing compound is carried in this resilient hose 7. As is described at Column 2, starting at line 29 of the Dorow reference, when the plate ends 10 are pressed against the clamping surfaces 3 of the clamping inserts 2, by rotation of the cams 11 through 90°, the resilient hose 7 is deformed by the clamping strips 2. The result of the deformation of the resilient hose 7 is the extruding of the gap-filling compound. This is the black material depicted in Fig. 2. The gap-filling compound fills the clamping channel 4 and provides a smooth transition between the two plate ends.

The resilient hose 7 does not exert a clamping force on the plate ends 10. Instead, it is subjected to a force which is exerted on it by the clamping strips 2. The resilient hose 7 is analogous to a tube of toothpaste. It exudes its gap-filling compound

The combination of Heller and Dorow would not render obvious the subject invention. As discussed above, Heller does not show first and second profiled bodies. Dorow shows a pair of such bodies but does not show them with edges defining a secured channel. Further, Dorow does not show at least one dressing end holding means that is pivotably positioned in the secured channel. Finally, Dorow does not show or suggest a dressing end holding portion of the dressing end holding means. The resilient hose 7 is clearly not such a device.

All of the claims that depend from believed allowable, currently amended independent claim 50, are also believed to be allowable. Various ones of these claims have been amended to conform their language to that set forth in currently amended claim 50.

The prior art set forth on the PTO-892 forms which accompanied the Office Action of May 21, 2009, have been noted. Since they were not relied on in the rejections of the claims, no further discussion thereof is believed to be required.

SUMMARY

Various ones of the claims currently pending in the subject application have been amended. Two new claims have been added. Claims not selected for prosecution in this application have been cancelled. The substitute specification has been amended to correct various minor errors, without the addition of any new matter. It is believed that all of the claims now pending in the subject application, are patentable over the prior art cited and relied on. Allowance of the claims, and passage of the application to issue is respectfully requested.

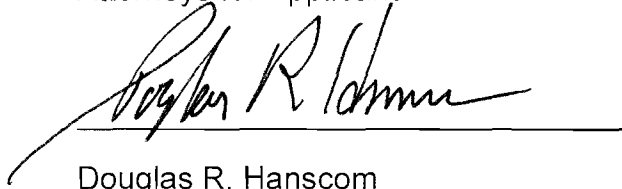
Respectfully submitted,

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A handwritten signature in dark ink, appearing to read "Douglas R. Hanscom", is written over a horizontal line.

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